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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,714	04/17/2006	David M. Szmyd	US030472US	6310

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EXAMINER

KUO, WENSING W

ART UNIT	PAPER NUMBER
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2826

NOTIFICATION DATE	DELIVERY MODE
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10/23/2007

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary	Application No.	Applicant(s)	
	10/576,714	SZMYD, DAVID M.	
	Examiner	Art Unit	
	W. Wendy Kuo	2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 April 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>17 April 2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the single pad opening of the pairs of ground pads as claimed in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Claim Objections

2. Claims 4, 7, and 13 are objected to because of the following informalities:
 - With respect to claims 4 and 7, the "two pairs of ground pads" are not consistent with their original pairing arrangement as claimed in claim 1. For the remainder

Art Unit: 2826

of this Office action, claims 4 and 7 will be treated as follows: "two pairs of ground pads (G1a, G2a; G1b, G2b)"

- With respect to claim 13, the "said pairs" are not consistent with their original pairing arrangement as claimed in claim 10. For the remainder of this Office action, claim 13 will be treated as follows: "said pairs (G1a, G1b; S1, S2; G2a, G2b)"

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

As claimed, if the pad pitch were 100 um, then a probe pitch of 200 um would result in one of the probes not contacting one of the pads because the combined distance of the pad pitches and the pad between two adjacent probes (as depicted in applicant's Figure 2) would be greater than 200 um.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

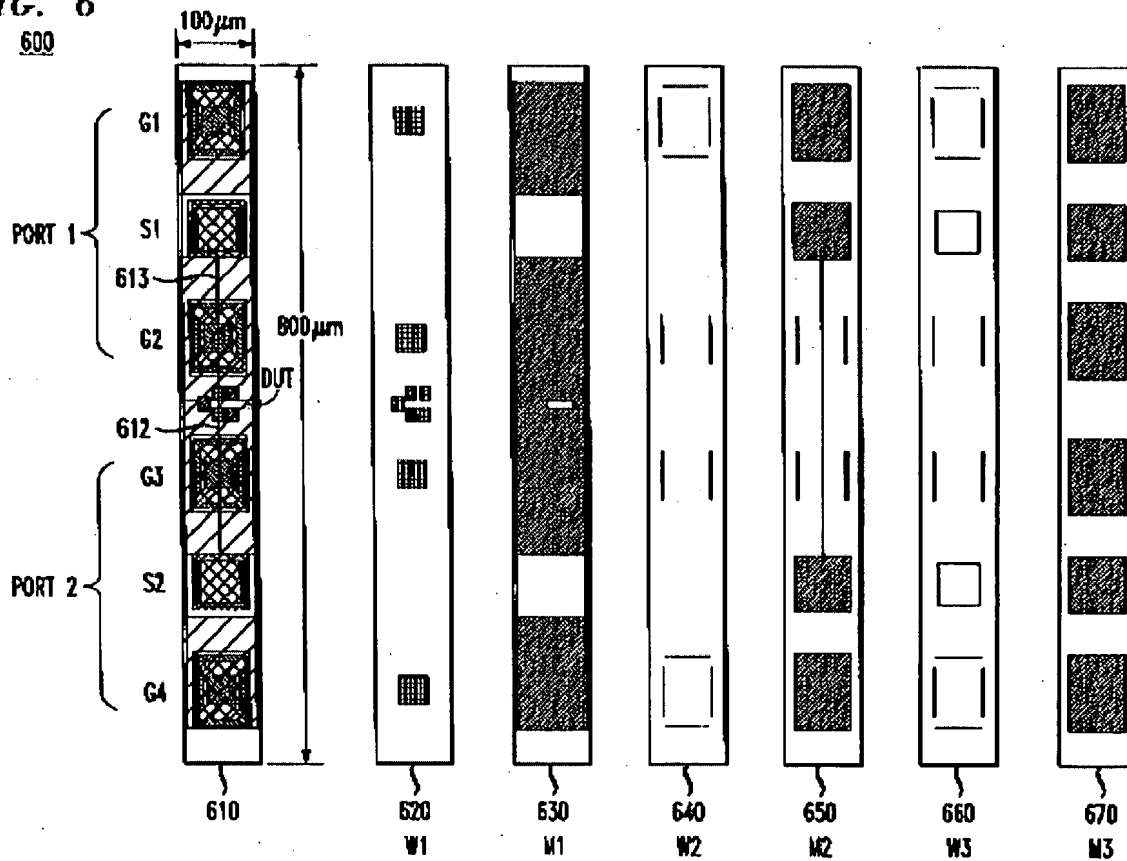
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3 and 10-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Ivanov et al., US 6,194,739.

7. With respect to claim 1, Ivanov et al. teach in Figure 6 a ground-signal-ground (GSG) test structure for production measurement of RF device performance in integrated circuits, comprising one pair of signal pads (S1, S2) (**S1, S2**) and two pairs of ground pads (G1a, G2a; G1b, G2b) (**G1, G3; G2, G4**), wherein all said six pads (G1a, G2a, S1, S2, G1b, G2b) are arranged linearly.

FIG. 6



8. With respect to claim 2, Ivanov et al. further teach that each of said pairs (G1a, G2a; S1, S2; G1b, G2b) comprise a first pad (G1a, S1, G1b) (**G1, S1, G2**) connected to a first RF probe and a second pad (G2a, S2, G2b) (**G3, S2, G4**) connected to a second RF probe (column 9, lines 41-43).

9. With respect to claim 3, Ivanov et al. further teach that the first RF probes are connected to a first port, and all the second RF probes are connected to a second port (column 9, lines 28-29 and lines 41-43).

Art Unit: 2826

10. With respect to claim 10, Ivanov et al. teach in Figure 6 an arrangement of GSG testing pads comprising one pair of signal pads (S1, S2) (**S1, S2**) and two pairs of ground pads (G1a, G1b; G2a, G2b) (**G1, G2; G3, G4**), wherein all of said pads (G1a, G2a, S1, S2, G1b, G2b) are arranged linearly.

11. With respect to claim 11, Ivanov et al. further teach that all of said pads are placed in a saw line (street) of a wafer (column 9, lines 58-61).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 4-7 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivanov et al., US 6,194,739.

14. With respect to claims 4, 5, 12, and 15 Ivanov et al. fail to teach that the pair of signal pads is located between said two pairs of ground pads and that said first pads and said second pads are positioned alternately. However, rearranging the position of the signal and ground pads will not modify the operation of the device and, thus, is not patentably distinguishable from the prior art. *In re Japikse*, 181 F.2d 1019, 86 USPQ 70 (CCPA 1950). Furthermore, "the particular placement of a contact in a conductivity

Art Unit: 2826

measuring device was held to be an obvious matter of design choice.” *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

It would have been obvious to one of ordinary skill in the art at the time of the invention to rearrange the placement of the ground and signal pads as an obvious matter of design choice and for the benefit of providing accurate GS or GSG RF-device monitors (column 2, lines 29-30; note column 10, lines 33-38).

15. With respect to claim 6, Ivanov et al. further teach in Figure 6 that the device under test (DUT) is placed between said pair of signal pads (S1, S2).

16. With respect to claim 7, Ivanov et al. further teach that the pair of signal pads are placed on an upper metal layer **M2** (column 8, lines 61-63) and said two pairs of ground pads are placed on a lower metal layer **M2** (column 7, lines 65-67).

17. With respect to claim 13, Ivanov et al. further teach that each of said pairs comprises a first pad (G1a, S1, G1b) (**G1, S1, G2**) connected to a first RF probe and a second pad (G2a, S2, G2b) (**G3, S2, G4**) connected to a second RF probe (column 9, lines 41-43).

18. With respect to claim 14, Ivanov et al. further teach that all said first RF probes are connected to a first port (column 9, lines 28-29), and all said second RF probes are connected to a second port (column 9, lines 41-43).

19. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ivanov et al., US 6,194,739 in view of Takamori, US 6,008,542.

Art Unit: 2826

20. With respect to claim 8, Ivanov et al. fail to teach that each of the two pairs of ground pads has a common single pad opening. Takamori discloses in Figure 4 two pairs of pads (**31b, 31c**) having a common single pad opening **33a** for the benefit of allowing the probes to be arranged in a staggered manner (column 2, lines 39-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the device of Ivanov et al. with the common single pad opening of Takamori for the benefit of allowing the probes to be arranged in a staggered manner.

*Note that although Takamori's pads are placed adjacent to each other in the common opening and Ivanov's ground pads are not adjacent to each other, it has already been established above in the rejection of claim 4 that one of ordinary skill in the art can rearrange the pads such that the pairs of ground pads are adjacent to each other as an obvious matter of design choice.

21. With respect to claim 9, Ivanov et al. in view of Takamori fail to teach that the pad pitch is 100 μm and the probe pitch is 200 μm . However, differences in pad and probe pitch will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such distances are critical. Such pitches as claimed are not patentably distinct from the prior art device where the claimed dimensions would not perform differently from the prior art device. *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984).

Since the applicant has not established the criticality (see next paragraph) of the pad and probe pitch, and it is known in the art to alter pitch dimensions to optimize the functionality of the device, it would have been obvious to one of ordinary skill in the art

Art Unit: 2826

at the time of the invention to use these values in the device of Ivanov et al. in view of Takamori.

CRITICALITY

The specification contains no disclosure of either the critical nature of the claimed pitch dimensions or any unexpected results arising therefrom. Where patentability is said to be based upon particular chosen dimensions or upon another variable recited in a claim, the applicant must show that the chosen dimensions are critical. *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. Wendy Kuo whose telephone number is (571) 270-1859. The examiner can normally be reached Monday through Friday 7:00 AM to 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sue A. Purvis can be reached at (571) 272-1236. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.


Art Unit: 2826

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



W. Wendy Kuo
Examiner
Art Unit 2826

WWK



LEONARDO ANDUJAR
PRIMARY EXAMINER